

Supplement tables

Table S1. Lipoarabinomannan lateral flow assay, lipoarabinomannan ELISA and Xpert MTB/RIF accuracy for histopathologic definite TBM and definite & probable TBM in patients with CD4 cell count <100 cells/mm³ (n=29)

	Sensitivity % (95%CI) n/N	Specificity % (95%CI) n/N	PPV % (95%CI) n/N	NPV % (95%CI) n/N
Definite TBM				
LFA unprepared CU+1	100 (34-100) 2/2	61 (41-78) 14/23	18 (5-48) 2/11	100 (78-100) 14/14
LFA unprepared CU+2	50 (9-91) 1/2	83 (63-93) 19/23	20 (4-62) 1/5	95 (76-99) 19/20
LFA supernatant CU+1	100 (34-100) 2/2	57 (37-74) 13/23	17 (5-45) 2/12	100 (77-100) 13/13
LFA supernatant CU+2	100 (34-100) 2/2	74 (54-87) 17/23	25 (7-59) 2/8	100 (82-100) 17/17
LAM-ELISA	0 (0-66) 0/2	83 (63-93) 19/23	0 (0-49) 0/4	90 (71-97) 19/21
Xpert MTB/RIF	100 (34-100) 2/2	74 (54-87) 17/23	25 (7-59) 2/8	100 (82-100) 17/17
Definite &Probable TBM				
LFA unprepared CU+1	75 (30-95) 3/4	61 (41-78) 14/23	25 (9-53) 3/12	93 (70-99) 14/15
LFA unprepared CU+2	50 (15-85) 2/4	83 (63-93) 19/23	33 (10-70) 2/6	90 (71-97) 19/21
LFA supernatant CU+1	75 (30-95) 3/4	57 (37-74) 13/23	23 (8-50) 3/13	93 (69-99) 13/14
LFA supernatant CU+2	75 (30-95) 3/4	74 (54-87) 17/23	33 (12-65) 3/9	94 (74-99) 17/18
LAM-ELISA	25 (5-70) 1/4	83 (63-93) 19/23	20 (4-62) 1/5	86 (67-95) 19/22
Xpert MTB/RIF	100 (51-100) 4/4	74 (54-87) 17/23	40 (17-69) 4/10	100 (82-100) 17/17

CI: confidence interval; n: number of observations; N: total number; PPV: positive predictive value; NPV: negative predictive value; TBM: tuberculosis meningitis; LFA: lateral flow assay; CU+1: cut-off point +1 used for lateral flow assay positivity; CU+2: cut-off point +2 used for lateral flow assay positivity;

Table S2. Lipoarabinomannan lateral flow assay and lipoarabinomannan ELISA accuracy for the composite standard definite TBM in patients with CD4 cell count <100 cells/mm³ (n=29)

	Sensitivity % (95%CI) n/N	Specificity % (95%CI) n/N	PPV % (95%CI) n/N	NPV % (95%CI) n/N
Definite TBM				
LFA unprepared CU+1	80 (49-94) 8/10	76 (53-90) 13/17	67 (39-86) 8/12	87 (62-96) 13/15
LFA unprepared CU+2	50 (24-76) 5/10	94 (73-99) 16/17	83 (44-97) 5/6	76 (55-89) 16/21
LFA supernatant CU+1	80 (49-94) 8/10	71 (47-87) 12/17	62 (36-82) 8/13	86 (60-96) 12/14
LFA supernatant CU+2	60 (31-83) 6/10	82 (59-94) 14/17	67 (35-88) 6/9	78 (55-91) 14/18
LAM-ELISA	40 (17-69) 4/10	94 (73-99) 16/17	80 (38-96) 4/5	73 (52-87) 16/22

CI: confidence interval; n: number of observations; N: total number; PPV: positive predictive value; NPV: negative predictive value; TBM: tuberculosis meningitis; LFA: lateral flow assay; CU+1: cut-off point +1 used for lateral flow assay positivity; CU+2: cut-off point +2 used for lateral flow assay positivity;

Table S3. Lipoarabinomannan lateral flow assay, lipoarabinomannan ELISA and Xpert MTB/RIF accuracy for histopathologic definite TBM and definite & probable TBM in patients not on anti-TB treatment (n=61)

	Sensitivity % (95%CI) n/N	Specificity % (95%CI) n/N	PPV % (95%CI) n/N	NPV % (95%CI) n/N
Definite TBM				
LFA unprepared CU+1	75 (30-95) 3/4	68 (54-80) 32/47	17 (6-39) 3/18	97 (85-99) 32/33
LFA unprepared CU+2	25 (5-70) 1/4	85 (72-93) 40/47	13 (2-47) 1/8	93 (81-89) 40/43
LFA supernatant CU+1	75 (30-95) 3/4	68 (54-80) 32/47	17 (6-39) 3/18	97 (85-99) 32/33
LFA supernatant CU+2	75 (30-95) 3/4	85 (72-93) 40/47	30 (11-60) 3/10	98 (87-100) 40/41
LAM-ELISA	25 (5-70) 1/4	91 (80-97) 43/47	20 (4-62) 1/5	93 (82-98) 43/46
Xpert MTB/RIF	100 (51-100) 4/4	83 (70-91) 39/47	33 (14-61) 4/12	100 (91-100) 39/39
Definite &Probable TBM				
LFA unprepared CU+1	33 (12-65) 3/9	68 (54-80) 32/47	17 (6-39) 3/18	84 (70-93) 32/38
LFA unprepared CU+2	11 (2-43) 1/9	85 (72-93) 40/47	13 (2-47) 1/8	83 (70-91) 40/48
LFA supernatant CU+1	56 (27-81) 5/9	68 (54-80) 32/47	25 (11-47) 5/20	89 (75-96) 32/36
LFA supernatant CU+2	33 (12-65) 3/9	85 (72-93) 40/47	30 (11-60) 3/10	87 (74-94) 40/46
LAM-ELISA	22 (6-55) 2/9	91 (80-97) 43/47	33 (10-70) 2/6	86 (74-93) 43/50
Xpert MTB/RIF	78 (45-94) 7/9	83 (70-91) 39/47	47 (25-70) 7/15	95 (84-99) 39/41

CI: confidence interval; n: number of observations; N: total number; PPV: positive predictive value; NPV: negative predictive value; TBM: tuberculosis meningitis; LFA: lateral flow assay; CU+1: cut-off point +1 used for lateral flow assay positivity; CU+2: cut-off point +2 used for lateral flow assay positivity;

Table S4. Lipoarabinomannan lateral flow assay and lipoarabinomannan ELISA accuracy for the composite standard definite TBM in patients not on anti-TB treatment (n=61)

	Sensitivity % (95%CI) n/N	Specificity % (95%CI) n/N	PPV % (95%CI) n/N	NPV % (95%CI) n/N
Definite TBM				
LFA unprepared CU+1	63 (39-82) 10/16	79 (64-89) 31/39	56 (34-75) 10/18	84 (69-92) 31/37
LFA unprepared CU+2	31 (14-56) 5/16	92 (80-97) 36/39	63 (31-86) 5/8	77 (63-86) 36/47
LFA supernatant CU+1	69 (44-86) 11/16	78 (63-80) 29/37	58 (36-77) 11/19	85 (70-94) 29/34
LFA supernatant CU+2	50 (28-72) 8/16	95 (82-99) 35/37	80 (49-94) 8/10	81 (67-90) 35/43
LAM-ELISA	38 (18-61) 6/16	100 (91-100) 39/39	100 (61-100) 6/6	80 (66-89) 39/49

CI: confidence interval; n: number of observations; N: total number; PPV: positive predictive value; NPV: negative predictive value; TBM: tuberculosis meningitis; LFA: lateral flow assay; CU+1: cut-off point +1 used for lateral flow assay positivity; CU+2: cut-off point +2 used for lateral flow assay positivity;

Table S5. Lipoarabinomannan lateral flow assay, lipoarabinomannan ELISA and Xpert MTB/RIF accuracy for histopathologic definite TBM and definite & probable TBM in patients with clinical symptoms of meningo-encephalitis (n=40)

	Sensitivity % (95%CI) n/N	Specificity % (95%CI) n/N	PPV % (95%CI) n/N	NPV % (95%CI) n/N
Definite TBM				
LFA unprepared CU+1	71 (36-92) 5/7	87(68-95) 20/23	63 (31-86) 5/8	91 (72-97) 20/22
LFA unprepared CU+2	20 (8-64) 2/7	91 (73/98) 21/23	50 (15-85) 2/4	81(62-91) 21/26
LFA supernatant CU+1	86 (49-97) 6/7	83 (63-93) 19/23	60 (31-83) 6/10	95 (76-99) 19/20
LFA supernatant CU+2	71 (36-92) 5/7	91 (73/98) 21/23	71 (36-92) 5/7	91 (73/98) 21/23
LAM-ELISA	33 (10-70) 2/6*	96 (79-99) 22/23	67 (21-94) 2/3	85 (66-94) 22/26
Xpert MTB/RIF	100 (65-100) 7/7	91 (73/98) 21/23	78 (45-94) 7/9	100 (85-100) 21/21
Definite &Probable TBM				
LFA unprepared CU+1	46 (23-71) 6/13	87(68-95) 20/23	67 (35-88) 6/9	74 (55-87) 20/27
LFA unprepared CU+2	23 (8-50) 3/13	91 (73/98) 21/23	60 (23-88) 3/5	68 (50-81) 21/31
LFA supernatant CU+1	69 (42-87) 9/13	83 (63-93) 19/23	69 (42-87) 9/13	83 (63-93) 19/23
LFA supernatant CU+2	46 (23-71) 6/13	91 (73/98) 21/23	75 (41-93) 6/8	75 (57-87) 21/28
LAM-ELISA	33 (14-61) 4/12*	96 (79-99) 22/23	80 (38-96) 4/5	73 (56-86) 22/30
Xpert MTB/RIF	85 (58-96) 11/13	91 (73/98) 21/23	85 (58-96) 11/13	91 (73-98) 21/23

CI: confidence interval; n: number of observations; N: total number; PPV: positive predictive value; NPV: negative predictive value; TBM: tuberculosis meningitis; LFA: lateral flow assay; CU+1: cut-off point +1 used for lateral flow assay positivity; CU+2: cut-off point +2 used for lateral flow assay positivity; *one patient excluded because of missing LAM-ELISA results

Table S6. Lipoarabinomannan lateral flow assay and lipoarabinomannan ELISA accuracy for the composite standard definite TBM in patients with clinical symptoms of meningo-encephalitis (n=40)

	Sensitivity % (95%CI) n/N	Specificity % (95%CI) n/N	PPV % (95%CI) n/N	NPV % (95%CI) n/N
Definite TBM				
LFA unprepared CU+1	57 (33-79) 8/14	95 (77-99) 20/21	89 (57-98) 8/9	77 (58-89) 20/26
LFA unprepared CU+2	29 (12-55) 4/14	95 (77-99) 20/21	80 (38-96) 4/5	67 (49-81) 20/30
LFA supernatant CU+1	71 (45-88) 10/14	90 (71-97) 19/21	83 (55-95) 10/12	83 (63-93) 19/23
LFA supernatant CU+2	50 (27-73) 7/14	95 (77-99) 20/21	88 (53-98) 7/8	74 (55-87) 20/27
LAM-ELISA	38 (18-64) 5/13*	100 (85-100) 21/21	100 (57-100) 5/5	72 (54-85) 21/29

CI: confidence interval; n: number of observations; N: total number; PPV: positive predictive value; NPV: negative predictive value; TBM: tuberculosis meningitis; LFA: lateral flow assay; CU+1: cut-off point +1 used for lateral flow assay positivity; CU+2: cut-off point +2 used for lateral flow assay positivity; *one patient excluded because of missing LAM-ELISA results

Table S7. Lipoarabinomannan lateral flow assay, lipoarabinomannan ELISA and Xpert MTB/RIF accuracy for histopathologic definite, probable and possible TBM versus no TBM

	Sensitivity % (95%CI) n/N	Specificity % (95%CI) n/N	PPV % (95%CI) n/N	NPV % (95%CI) n/N
Definite, probable and possible TBM				
LFA unprepared CU+1	59 (39-77) 13/22	70 (58-79) 48/69	30 (17-48) 9/30	79 (67-87) 48/61
LFA unprepared CU+2	18 (7-39) 4/22	87 (77-93) 60/69	31 (13-58) 4/13	77 (66-85) 60/78
LFA supernatant CU+1	64 (43-80) 14/22	70 (58-79) 48/69	40 (26-56) 14/35	86 (74-93) 48/56
LFA supernatant CU+2	32 (16-53) 7/22	83 (72-90) 57/69	37 (19-59) 7/19	79 (68-87) 57/72
LAM-ELISA	24 (11-45) 5/21*	91 (82-96) 63/69	45 (21-72) 5/11	80 (70-87) 63/79
Xpert MTB/RIF	59 (39-77) 13/22	87 (77-93) 60/69	59 (39-77) 13/22	87 (77-93) 60/69

CI: confidence interval; n: number of observations; N: total number; PPV: positive predictive value; NPV: negative predictive value; TBM: tuberculosis meningitis; LFA: lateral flow assay; CU+1: cut-off point +1 used for lateral flow assay positivity; CU+2: cut-off point +2 used for lateral flow assay positivity; *one patient excluded because of missing LAM-ELISA results